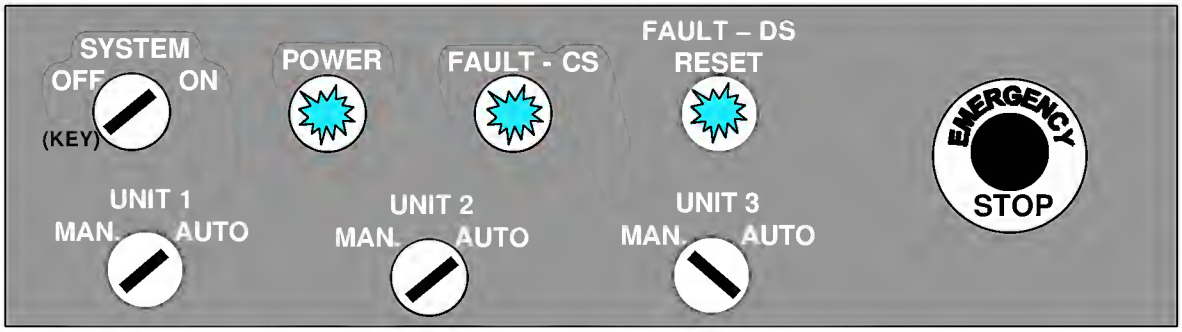
BELIMED AUTOMATION PROCEDURES

MAIN CONTROL PANEL (Dirty Side)



1. **System off/on key switch** - rotary key switch turns on main power
2. **Power on light** - yellow light is on when the **SYSTEM OFF/ON** key switch is in the **ON** position
3. **Fault CS indicator light** – red light is flashing if a fault has occurred on the clean side. Red light is on steady if the **CS EMERGENCY STOP** switch is pushed in.
4. **Fault DS/Reset lighted switch** – a combined fault indicator light and reset button. The red light flashes if there is a dirty side fault. A quick press of the dirty side reset button will reset the system (after the condition that caused the fault has been manually corrected), and the conveyor will reattempt the action that originally caused the fault. If the light is on steady, the **EMERGENCY STOP** push-button is pushed in.
5. **Emergency Stop switch** – a large red push-button switch. Push in on the button to shut down the DS side of the conveyor system. When **EMERGENCY STOP** is on, the **FAULT DS/RESET** red light will be on steady. Pull out the **EMERGENCY STOP** push-button to re-start the system. **NOTE:** ***EMERGENCY STOP*** *switches have no control over the Washer units except during the loading or unloading process. Pushing an* ***EMERGENCY STOP*** *button will not stop any washer program that is running.*
6. **UNIT MAN./AUTO switches** – amber, non-lighted switches. In the **AUTO** position, the washer unit is connected to the **AUTOMATION** system. In the **MAN.** (manual) position, the washer is not connected to the system. The conveyor controller ignores the washer unit and works around it, but the washer can be operated manually. **NOTE:** *At least one* ***UNIT MAN./AUTO*** *switch must be in the* ***AUTO*** *position at all times or a fault will occur as indicated by a flashing red light on the* ***FAULT DS/RESET*** *button.*

SECONDARY CONTROL PANEL (Clean Side)

1. **Fault CS/Reset lighted switch** – red light is flashing if there is a clean side fault. The red light is steady if the clean side **EMERGENCY STOP** switch is pushed in.
   - **Short Reset** – After correcting the condition that caused the fault, a short press resets the system. The unit will then attempt to complete the action that originally caused the fault.
   - **Long Reset** – After correcting the condition that caused the fault, a long press (at least three seconds) closes the clean side door. The rack should be removed from the unit before using the long reset.
2. **Emergency Stop switch** – a large red push-button switch. Push in to shut down the CS side of the conveyor system. Pull out on the push-button to restore power.

POWER UP

1. If the units have been turned off, turn on power separately to all Washers. Turn the main power switches to the "1" position and press the **START/RESET** button on the WD240 or SM1000 control panel once to light the display.
2. Turn the conveyor **SYSTEM OFF/ON** switch to **ON**. The yellow **POWER ON** light will come on.
3. Turn all **UNIT** switches to the **AUTO** position.

RACK RECOGNITION SYSTEM

- The rack recognition system consists of magnets on the racks and sensors in the washer.
  - The washer's microprocessor selects the correct program based on the magnet coding on the rack.
  - When a rack is loaded into the washer, the magnets line up with the sensors attached to the inside of the washer.
  - **NOTE:** *All racks MUST have a magnet at the bottom position when used with the conveyor.*
  - The Department should have a legend posted on the wall to tell the operator which program configuration the rack is set up to use.

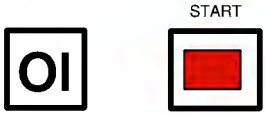
(continued on page 2)

(**AUTOMATION PROCEDURES**: continued from page 1)

NORMAL PROCEDURES: LOADING AND FEEDING RACKS ----------

1. Load a rack that has the correct magnetic configuration for the type of program you want to wash
2. Manually push the loaded rack from the loading station onto the in-feed station.
3. When a rack with proper magnetic sensors is fed into the conveyor system, the appropriate program will be automatically selected by the washer once the rack enters the machine. There will not be a need to manually program the washers while using the conveyor system.
4. The conveyor will advance the rack AUTOMATICALLY to the next available washer.
5. If all the machines are busy, the conveyor will queue up the racks.

- **NOTE: If you wish to *MANUALLY* select a program different from the magnetic program**, follow the following steps:
  - Allow the rack to enter the chamber via the conveyor system
  - After the rack has entered the washer and the door has closed, turn the unit to ***MANUAL*** on the side of the conveyor
  - Press the **Start/Restart** button on the side of the **WD240** or the **SM1000** – this will **STOP the cycle**.



  - Select the program you wish to use (**P1 through P6**)
  - The program will then automatically begin (though the light on the panel will not change)
  - Turn the unit back to ***AUTO*** on the side of the conveyor

UNLOADING RACKS ----------

1. When the wash cycle is finished, the washer opens the clean side door automatically.
2. The conveyor system unloads the rack and advances it to the unloading station.
   - If a rack is already in place, blocking either of the sensors in front of the Washer, the unit will not try to unload the rack until both sensors are clear. The CS door will stay in the open position. The rack will eject normally when the sensors are unobstructed.
3. After the rack has advanced to the unload position, the operator unloads the washed goods and then gently pushes the rack onto the return conveyor.

COMMON CAUSES OF FAULTS ----------

1. **Jams** – If a rack gets jammed on the conveyor, a fault will occur.
2. **Items sticking outside the confines of the rack** – If a rack is loaded too high or with items sticking outside the confines of the rack, the items may catch on the unit or the door opening. If this causes the rack to stop moving, a fault will result.
3. **Racks pushed too close together** – If you push the racks too tight together, the conveyor controller can't tell where one rack ends and the next begins. This may result in a fault. **NOTE:** *You can push the racks together on the return conveyor only.*
4. **Racks that get cocked during transfer** – If one of the transfer belts slips on the bottom of a rack, the rack could be cocked and jam against the edges of the conveyor. This is often due to misalignment of the racks to the opening provided in the conveyor frame, or instruments protruding from the side or bottom of the rack.
5. **A Reset switch stuck in the closed (pushed-in) position.**
6. **An EMERGENCY STOP push-button has been pushed in.**
7. **A fault has occurred but the bulb is burned out so the fault indicator light is not observed.**
8. **The bottom magnet is missing from the bracket on the rack.**
9. **The bottom rack magnetic sensor inside the washer is faulty.**
10. **A rack does not eject fully from the unit.**
11. **A photo sensor is stuck in the "on" position.**
12. **A photo sensor is activated by changes in lighting or blocked by dirt on the lens** – Abrasion or scratches on the lens may cause intermittent operation. If a sensor is activated, the system will think a rack is present even if one is not. If a sensor is never activated, it will not detect the presence of a rack. In either case, a fault will occur. **NOTE:** *Sensors are well protected and normally do not need regular cleaning. If cleaning becomes necessary, clean with water, mild soap, and a soft cloth.*

CLEARING JAMS ----------

- If you see a jam or problem before a fault occurs, press the **EMERGENCY STOP** push-button to stop the conveyor. Then correct the problem and pull out the **EMERGENCY STOP** push-button.
- If you see a fault light flashing, correct the problem first and then press the appropriate **RESET** button on the dirty or clean side.